

NRC 2003-0072

10 CFR 50.73

August 15, 2003

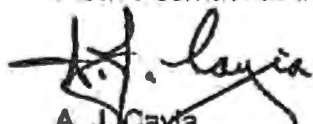
U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

POINT BEACH NUCLEAR PLANT UNIT 2
DOCKET NO. 50-301
LICENSEE EVENT REPORT 301/2003-004-00
REACTOR TRIP DUE TO FAILURE OF 'B' MAIN FEED PUMP MOTOR

Enclosed is Licensee Event Report (LER) 301/2003-004-00 for the Point Beach Nuclear Plant Unit 2. This LER discusses a reactor trip as a result of failure of a main feedwater pump motor while operating at full power. This event is reportable in accordance 10 CFR 50.73(a)(2)(iv)(A) for, "Any event or condition that resulted in manual or automatic actuation of any of the systems listed in paragraph (A) (2)(iv)(B)" Systems identified in that section include the reactor protection system and the PWR emergency feedwater system.

Corrective actions identified during our evaluation of this event have been identified in the enclosed report. There are no new commitments in this report.

Please contact us if you require additional information concerning this event.


A. J. Cayia
Site Vice-President
CWK/kmd

Enclosure

cc: NRC Regional Administrator
NRC Project Manager

NRC Resident Inspector
PSCW

IE22

NRC FORM 366
(7-2001)

U.S. NUCLEAR REGULATORY
COMMISSION

APPROVED BY OMB NO. 3150-0104 EXPIRES 7-31-2004

Estimated burden per response to comply with this mandatory information collection request: 60 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records Management Branch (T-6 E6), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by Internet e-mail to bis1@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202 (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose information collection does not display a currently valid OMB

LICENSEE EVENT REPORT (LER)

(See reverse for required number of
digits/characters for each block)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
POINT BEACH NUCLEAR PLANT UNIT 2	05000301	1 OF 3

TITLE (4)
REACTOR TRIP DUE TO FAILURE OF "B" MAIN FEED PUMP MOTOR

EVENT DATE (6)			LER NUMBER (9)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MO	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO	MO	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
07	10	2003	2003	004	00	08	15	2003	FACILITY NAME	DOCKET NUMBER
										05000
										05000
OPERATING MODE (9)		1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR (Check all that apply) (11)							
POWER LEVEL (10)		100	20.2201(b)		20.2203(a)(3)(i)		50.73(a)(2)(B)(B)		50.73(a)(2)(x)(A)	
			20.2201(d)		20.2203(a)(4)		50.73(a)(2)(B)		50.73(a)(2)(x)	
			20.2203(a)(1)		50.38(c)(1)(i)(A)		X 50.73(a)(2)(v)(A)		73.71(a)(4)	
			20.2203(a)(2)(i)		50.38(c)(1)(B)(A)		50.73(a)(2)(v)(A)		73.71(a)(B)	
					50.38(c)(2)		50.73(a)(2)(v)(B)		OTHER	
					50.48(a)(3)(i)		50.73(a)(2)(v)(C)		Specify in Abstract below	
							50.73(a)(2)(v)(D)		or in NRC Form 368A	
							50.73(a)(2)(v)(E)			
							50.73(a)(2)(v)(i)(A)			
			20.2203(a)(3)(i)		50.73(a)(2)(i)(A)		50.73(a)(2)(v)(i)(B)			

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)
Charles Wm. Krause, Senior Regulatory Compliance	(920) 755-6809

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX
X	SJ	MO	W120	Y					

SUPPLEMENTAL REPORT EXPECTED (14)				EXPECTED SUBMISSION DATE (15)		
YES (If yes, complete EXPECTED SUBMISSION DATE)				X	NO	

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16) On July 10, 2003, at approximately 1340 CDT, while operating at 100% power, the Point Beach Nuclear Plant (PBNP) Unit 2 experienced the failure of the "B" Main Feedwater Pump (MFP) due to an electrical fault within the motor. The loss of the MFP resulted in an automatic Unit 2 reactor trip at approximately 1341 CDT. The trip was due to a feed flow/steam flow mismatch coincident with low steam generator level. The auxiliary feedwater system also actuated as expected due to the initial low steam generator water levels. The reactor protection and safety systems responded as required and the unit was stabilized in Mode 3. A four hour event notification was made to the NRC at 1455 CDT.

The apparent cause for the failure of the "B" MFP motor failure has been preliminarily determined to be failure of the stator winding insulation due to age related degradation. Additional inspection and testing will be performed by the vendor that is contracted to rewind the motor to determine the validity of this failure mode assessment.

Unit 2 was taken critical at 2308 CDT on July 12 and operated with a single MFP and a nominal 50% power limit until the "B" MFP motor was replaced. Unit 2 returned to full power operation on July 16, 2003. Systems and equipment necessary to mitigate the consequences of this motor failure and subsequent reactor trip functioned as designed and the plant was maintained in a stable hot shutdown condition until the restart on July 12, 2003. The safety and welfare of the public and the plant staff was not impacted by this event and the safety significance was minimal.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (5)			PAGE (3)
Point Beach Nuclear Plant, Unit 2	05000301	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2 OF 3
		2003	- 004	- 00	

TEXT (if more space is required, use additional copies of NRC Form 368A) (17)

Event Description:

On July 10, 2003, while operating at a nominal 100% power, the Point Beach Nuclear Plant (PBNP) Unit 2 experienced a trip of the 2P-28B "B" main feedwater pump (MFP)¹. The MFP failure occurred at approximately 1340 (all times are CDT) when the MFP motor² breaker³ tripped instantaneously on overcurrent. The PBNP units are equipped with two 4160 volt motor driven MFP, each of which can provide steam generator⁴ feed water for a nominal 50% of the plant capacity. Since the plant was operating at essentially 100% power at the time of the failure, the result was an automatic Unit 2 reactor⁵ trip at approximately 1341. The trip was due to a feed flow/steam flow mismatch coincident with low steam generator level. The control room crew initially entered abnormal operating procedures AOP-17A, "Rapid Load Reduction," and AOP-2B, "Feedwater Malfunction." Following the trip, the operating crew initially entered emergency operating procedure EOP-0, "Reactor Trip or Safety Injection," followed by transition to EOP-0.1, "Reactor Trip Response."

Following the unit trip, the reactor protection and safety systems responded as required and the unit was stabilized in Mode 3 at normal operating temperature and pressure. During the trip transient the auxiliary feedwater system⁶ (AFWS) actuated as expected due to the initial low steam generator water levels. The AFWS and other equipment necessary for response to this event performed as designed. An Event Notification System (ENS) telephone call (EN# 39988) was made at 1455 to notify the NRC of the transient in accordance with 10 CFR 50.72(b)(2)(iv)(B) for the RPS actuation (scram) and 50.72(b)(3)(iv)(A), specified system (AFWS) actuation.

Event Analysis:

An equipment root cause investigation was initiated to determine the reason for the main feed pump breaker trip and failure of the MFP motor. The initial results of this investigation are discussed in the "Cause" discussion which follows. On July 11, 2003, the plant staff concluded that Unit 2 could be returned to operation with a single MFP and power limited to approximately 50% while the "B" MFP motor was being replaced. A reactor startup was started at 2006 on July 11, 2003. That startup was terminated when a cooling transient necessitated a manual safety injection and manual reactor trip. That event is being reported in a separate LER 301/2003-005-00, "Manual Reactor Trip and Safety Injection Due to Pressurizer Low Level." Following the resolution of the problems identified in these events, Unit 2 was taken critical at 2306 on July 12, 2003, with a nominal power limit of approximately 50% for single feed water pump operation. The Unit 2 "B" feedwater pump motor was subsequently replaced with the on-site spare motor. PBNP Unit 2 returned to full power operation on July 16, 2003 at 0446.

Cause:

The apparent cause of the 2P-28B MFP motor failure has been preliminarily determined to be failure of the stator winding insulation due to age related degradation. Additional inspection and testing is planned for the vendor contracted to rewind the motor to determine the validity of this failure mode assessment.

Corrective Action:

The failed MFP motor was replaced with an on-site spare motor which had previously been rewound as part of its refurbishment. If additional corrective actions are identified following the vendor inspections and repair of the failed motor, they will be included in the PBNP corrective action program.

- ¹ System Identifier SJ Component Identifier P
- ² Component Identifier M
- ³ Component Identifier BK
- ⁴ Component Identifier SG
- ⁵ Component Identifier RCT
- ⁶ System Identifier BA

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)	PAGE (3)						
Point Beach Nuclear Plant, Unit 2	05000301	<table border="1"><tr><th data-bbox="990 287 1088 329">YEAR</th><th data-bbox="1088 287 1266 329">SEQUENTIAL NUMBER</th><th data-bbox="1266 287 1537 329">REVISION NUMBER</th></tr><tr><td data-bbox="990 329 1088 361">2003</td><td data-bbox="1088 329 1266 361">- 004</td><td data-bbox="1266 329 1537 361">- 00</td></tr></table>	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2003	- 004	- 00	3 OF 3
YEAR	SEQUENTIAL NUMBER	REVISION NUMBER							
2003	- 004	- 00							

TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

Safety Significance:

With the exception of the MFP motor equipment failure, which initiated this event, the plant response during and following this reactor trip and AFW actuation was as expected. Systems and equipment necessary to mitigate the consequences of this transient performed as designed and maintained the plant in a stable hot shutdown condition. Other than a challenge to the reactor protection system and other plant equipment necessary to remove shutdown decay heat and maintain the plant in a stable configuration, the safety significance of this event was minimal. The safety and welfare of the public and the plant staff was not impacted by this event. During this event and the subsequent recovery actions there was at no time a loss of a system, structure, or component related safety functions; therefore, this event did not involve a Safety System Functional Failure.

Previous Similar Events:

A review of LERs submitted in the past three years identified the following events which involved a reactor trip due to equipment fault or failure:

LER NUMBER**Title**

301/2001-001-00

Ground Fault Relay Actuation Causes Generator Lockout and Reactor Trip

301/2000-007-00

Fault Associated with "C" Phase Main Step-up Transformer Results in Reactor Scram

301/2000-006-00

Failed Fuse in Intermediate Range Nuclear Detector Results in Reactor Scram

NRC 2003-0074

10 CFR 50.48

August 15, 2003

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

**DOCKETS 50-266 AND 50-301
POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2
REPORTING OF FIRE BARRIERS DEGRADED FOR MORE THAN SEVEN DAYS**


Enclosed is a special 30 day report for Point Beach Nuclear Plant (PBNP), Unit 1 and Unit 2. This report is provided in accordance with the PBNP Fire Protection Evaluation Report (FPER), Section 8.1.5. That section requires the submittal of a report to the U. S. Nuclear Regulatory Commission when degradation of fire protection systems or components exceeds the time listed in FPER Section 8.1.3. Paragraph C.1.b (4) of that section requires a report if an inoperable fire barrier is not restored to an operable status within a seven-day period. This letter is being provided to report four such conditions.

As part of a plant modification to install high energy line break barriers at the 46 foot elevation of the Point Beach Primary Auxiliary Building (PAB), several fire barrier penetrations have been breached to facilitate the installation of the modifications. Two penetrations, designated M-3-5-16-W1 and M-3-5-16-W23, were removed from service on July 9, 2003. These penetrations were associated with ventilation ductwork between the boric acid storage tank room and the central area of the PAB. The ductwork that passed through these penetrations has been removed and the openings replaced with qualified three hour fire barrier penetration seals. Both of these penetrations were restored to operability on July 30, 2003.

Penetration M-1-5-1-F22 was removed from service on July 23, 2003. This penetration involves a non-fire rated equipment hatch assembly that provides access to the boric acid batching tank. This equipment hatch has been modified to prevent the passage of steam following a HELB event. This penetration was restored to operability on August 1, 2003.

Penetration M-3-5-14-N07 was removed from service on July 11, 2003. This penetration is an electrical blackout located between the boric acid storage tank room and the Unit 2 Rod Drive Room. This seal has been modified to include a Fire/HELB damper assembly. This penetration was restored to operability on August 13, 2003.

During the time that the above listed penetrations were considered out of service, compensatory measures consisting of hourly fire rounds on both sides of the affected barriers were completed in accordance with plant procedures.



A. J. Cayia
Site Vice President

CWK/knd

Cc: Regional Administrator, Region III, USNRC
Project Manager, Point Beach Nuclear Plant, NRR, USNRC
NRC Resident Inspector - Point Beach Nuclear Plant
PSCW

NRC 2003-0071

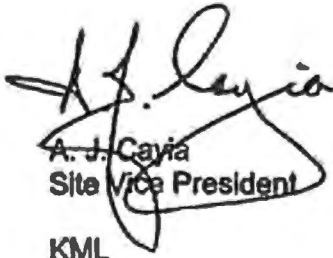
GL 97-02

August 13, 2003

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

DOCKETS 50-266 AND 50-301
POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2
MONTHLY OPERATING REPORTS

Attached are monthly operating reports for Units 1 and 2 of the Point Beach Nuclear Plant for the calendar month of July 2003.



A. J. Cayia
Site Vice President

KML

Attachment

cc: J. D. Look, PSCW
NRC Regional Administrator
NRC Resident Inspector
NRC Project Manager

OPERATING DATA REPORT

DOCKET NO. 50-266
UNIT NAME POINT BEACH NUCLEAR PLANT - UNIT 1
DATE 08/04/03
COMPLETED BY Kim M. Locke
TELEPHONE 920-755-6420

REPORTING PERIOD July - 2003

1. DESIGN ELECTRICAL RATING (MWE-NET)	522.0
2. MAXIMUM DEPENDABLE CAPACITY (MWE-NET)	516.0

	<u>MONTH</u>	<u>YEAR TO DATE</u>	<u>CUMULATIVE</u>
3. NUMBER OF HOURS REACTOR WAS CRITICAL	530.5	4,873.5	236,472.9
4. NUMBER OF HOURS THE GENERATOR WAS ON LINE	522.2	4,865.2	232,923.7
5. UNIT RESERVED SHUTDOWN HOURS	0.0	0.0	846.9
6. NET ELECTRICAL ENERGY (MWH)	260,509.0	2,476,321.5	108,027,630.5

DATA REPORTED AND FACTORS CALCULATED AS REQUESTED IN NRC GENERIC LETTER 97-02 DATED MAY 15, 1997

UNIT SHUTDOWNS

DOCKET NO. 50-266
 UNIT NAME: Point Beach, Unit 1
 DATE: 8/04/2003
 COMPLETED BY: Kim M. Locke
 TELEPHONE: 755-6420

REPORTING PERIOD: July 2003
 (Month/Year)

NO.	DATE	TYPE F: FORCED S: SCHEDULED	DURATION (HOURS)	REASON (1)	METHOD OF SHUTTING DOWN (2)	CAUSE/CORRECTIVE ACTIONS COMMENTS
1	07/15/2003	F	221.8	(A)	(3)	Unit 1 reactor trip due to failure of 1G06 rod drive MG voltage regulator. Corrective Action: CA032163

(1) Reason

- A. Equipment Failure (Explain)
- B. Maintenance or Test
- C. Refueling
- D. Regulatory Restriction
- E. Operator Training/license Examination
- F. Administrative
- G. Operational Error (Explain)
- H. Other (Explain)

(2) Method

- 1. Manual
- 2. Manual Trip/Scram
- 3. Automatic Trip/Scram
- 4. Continuation
- 5. Other (Explain)

SUMMARY:

Unit 1 average daily power for the month of July was 350.1 MWe.

On 7/15/03 at 1340 hrs, the Unit 1 reactor automatically tripped from 100% Power upon loss of G-06 rod drive motor-generator (MG) set.

Automatic transfer of the G-06 MG set to G-07 MG set did not occur.

There were no LERs on Unit 1 in the month of July.

OPERATING DATA REPORT

DOCKET NO. 50-301
UNIT NAME POINT BEACH NUCLEAR PLANT - UNIT 2
DATE 08/04/03
COMPLETED BY Kim M. Locke
TELEPHONE 920-755-6420

REPORTING PERIOD July - 2003

1. DESIGN ELECTRICAL RATING (MWE-NET)	522.0
2. MAXIMUM DEPENDABLE CAPACITY (MWE-NET)	518.0

	<u>MONTH</u>	<u>YEAR TO DATE</u>	<u>CUMULATIVE</u>
3. NUMBER OF HOURS REACTOR WAS CRITICAL	686.6	4,983.6	230,736.7
4. NUMBER OF HOURS THE GENERATOR WAS ON LINE	675.3	4,930.7	227,696.4
5. UNIT RESERVED SHUTDOWN HOURS	0.0	0.0	302.2
6. NET ELECTRICAL ENERGY (MWH)	326,951.0	2,480,545.5	107,268,349.0

DATA REPORTED AND FACTORS CALCULATED AS REQUESTED IN NRC GENERIC LETTER 97-02 DATED MAY 15, 1997

UNIT SHUTDOWNS

DOCKET NO: 50-301
UNIT NAME: Point Beach, Unit 2
DATE: 8/02/2003
COMPLETED BY: Kim M. Locke
TELEPHONE: 755-6420

REPORTING PERIOD: July 2003
(Month/Year)

NO.	DATE	TYPE F: FORCED S: SCHEDULED	DURATION (HOURS)	REASON (1)	METHOD OF SHUTTING DOWN (2)	CAUSE/CORRECTIVE ACTIONS COMMENTS
1	07/10/2003	F	68.7	(A)	(3)	Reactor Trip due to failure of "B" main feedwater pump. Corrective Action: (CA032158)
2	07/11/2003	F	0	(H)	(1)	Manual SI and insertion reactor trip signal due to over cooling transient Corrective Action: (CA032159)

(1) Reason

- A. Equipment Failure (Explain)
- B. Maintenance or Test
- C. Refueling
- D. Regulatory Restriction
- E. Operator Training/license Examination
- F. Administrative
- G. Operational Error (Explain)
- H. Other (Explain)

(2) Method

- 1. Manual
- 2. Manual Trip/Scram
- 3. Automatic Trip/Scram
- 4. Continuation
- 5. Other (Explain)

SUMMARY:

Unit 2 average daily power for the month of July was 439.5 MWe.

- 1) At 1342, The Unit 2 'B' Main Feedwater Pump tripped; this was followed by an automatic reactor trip at 1344. All Reactor Protection and Safety Systems responded as required. The Unit 2 'B' Heater Drain Tank Pump also tripped during the transient.
- 2) Unit 2 was in mode 3 with the main feedwater regulating valve controllers in automatic. Upon closure of the reactor trip breakers in preparation for critical approach, the main feed regulating valves opened causing a cooldown of the reactor coolant system (RCS) and pressurizer low level. The operator response sequence included inserting a manual reactor trip signal and manual safety injection. There was no actual safety injection and the charging pumps made up for the RCS shrinkage due to the cooldown. Additionally, there was no reactor trip as the reactor was shutdown.

There was one LER on Unit 2 in the month of July, LER 301/2003-001-01 - Containment Accident Fan Backdraft Damper Failure Results in a Condition Prohibited by Technical Specification 3.6.6.C - Supplement